Preface

Ambient Intelligence used to be a vision of our future. Today, it is more like a central aspect of our life: we already live surrounded by a new generation of electronic devices, helping us in most of our work and leisure endeavors. Ambient Intelligence technologies combine concepts of ubiquitous computing and intelligent systems to put humans at the center of technological development. Many young people, in particular, are fond of ambient intelligence and seem to have found an easy and natural way to exploit the information and knowledge provided by the network connecting these devices and by the device themselves. In such a scenario, giving to the devices with the capability of extracting and processing multimedia information is crucial. Indeed, time-honored research areas such as video processing and image analysis are now experiencing a second youth, and play a crucial role in supporting the devices' advanced multimedia capabilities.

Multimedia Techniques for Device and Ambient Intelligence (MTDAI) is a edited volume written by well-recognized international researchers including, but not limited to, extended chapter-style versions of the papers presented at the homonymous MTDAI seminar that we started in 2008, in the unique setting of villa Braida at Mogliano Veneto, near Venice. The MTDAI seminar is intended to bring together, without the usual formalities of a conference, a number of top researchers from academia and industry interested in multimedia issues. MTDAI is based on short presentations and open discussions, fostering interdisciplinary collaboration and encouraging the exploration of new frontiers in the area of ambient and device intelligence.

After the seminar, some MTDAI authors were asked to revise and extend their contributions, taking into account the lively discussion and remarks made during the seminar. Also, a call for chapter was published, attracting some interesting proposals of additional chapters. A rigorous refereeing was then carried out; the result is this book, presenting the state-of-the-art and some recent research results in the field of image understanding and its applications to device and ambient intelligence. The book is divided into two parts: the first part discusses new low-level techniques for image and video understanding, while the second part presents a series of novel applications, focusing on multimedia-oriented knowledge management.

Putting together a book like this is always a team effort, and we gratefully acknowledge the hard work and dedication of many people. First of all, e appreciate the fundamental work of the MTDAI committee members, who accepted to handle the refereeing of the book chapters, and contributed with valuable comments and observation. We also would like to acknowledge the help, support and patience of the Springer publishing team. But even more importantly, we wish to thank the authors who have contributed their best research work to this volume. We believe that while fully attaining the rigorousness and originality one would expect from a scientific edited volume, their contributions retain much of the liveliness and appeal to non-specialists which are a major feature of our MTDAI seminar.

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